

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please cancel claims 1-18 and add new claims 19-38 in accordance with the following:

Cancel 1-18

19. (New) A method for signaling relating to an intended data transmission from a first radio station to a second radio station in an ad-hoc mode of a radio communication system, comprising:

dividing a frequency band into a plurality of sub-bands for communicating between the radio stations in the ad-hoc mode, wherein the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands; and

sending a notification from the first radio station relating to the intended data transmission to the second radio station, the notification being sent only on one or more sub-bands selected from the group consisting of the one or more first sub-bands and the one or more second sub-bands.

20. (New) The method as claimed in Claim 19, wherein
the first radio station detects a current occupancy of the first and/or second sub-bands prior to sending the notification, and
the notification is sent only on one or more unoccupied sub-bands.

21. (New) The method as claimed in Claim 20, wherein
if the first sub-band is unoccupied and the data transmission is intended only for the second radio station, then the notification is transmitted only on the first sub-band.

22. (New) The method as claimed in Claim 20, wherein

if the data transmission is intended only for the second radio station, the second sub-band is unoccupied and the first sub-band is occupied, then the notification is sent only on the second sub-band.

23. (New) The method as claimed in one of the Claims 20, wherein the data transmission is intended for a third radio station in addition to the second radio station, said third radio station is assigned a third sub-band for communicating, neither the first sub-band, nor the second sub-band is occupied, and the notification is sent on both the first and second sub-bands.

24. (New) The method as claimed in one of the Claims 20, wherein the data transmission is intended for a third radio station in addition to the second radio station, said third radio station is assigned a third sub-band for communicating, the first sub-band is occupied and the second sub-band is unoccupied, and the notification is sent only on the second sub-band.

25. (New) A method for signaling relating to an intended data transmission from a first radio station to a second radio station in an ad-hoc mode of a radio communication system, comprising:

dividing a frequency band into a plurality of sub-bands for communication between the radio stations in the ad-hoc mode, wherein the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands;

receiving a notification at the second radio station from the first radio station relating to the intended data transmission from the first radio station to the second radio station; and

after receiving the notification, sending an acknowledgement from the second radio station to the first radio station to acknowledge the intended data transmission, the acknowledgement being sent only on one or more sub-bands selected from the group consisting of one or more first sub-bands and one or more second sub-bands.

26. (New) The method as claimed in Claim 25, wherein prior to sending the acknowledgement, the second radio station detects a current occupancy of the first and/or second sub-bands, and

the acknowledgement is sent only on one or more unoccupied sub-bands.

27. (New) The method as claimed in Claim 26, wherein
the second radio station detects a current occupancy for the one or more sub-bands
used to send the notification, and

if the one or more sub-bands used to send the notification are unoccupied, then the
acknowledgement is sent on the same one or more sub-bands used to send the notification.

28. (New) The method as claimed in claim 26, wherein
the second radio station detects a current occupancy for the one or more sub-bands
used to send the notification,

the second radio station detects that at least one of the sub-bands used to send the
notification is occupied and a reminder of the sub-bands used to send the notification is
unoccupied, and

the acknowledgement is sent on one or more sub-bands of the reminder.

29. (New) A method for signaling relating to an intended data transmission from a
first radio station to a second radio station in an ad-hoc mode of a radio communication system,
comprising:

dividing a frequency band into a plurality of sub-bands for communicating between the
radio stations in the ad-hoc mode, wherein the first radio station is assigned one or more first
sub-bands and the second radio station is assigned one or more second sub-bands; and

sending a notification from the first radio station relating to the intended data
transmission to the second radio station, the notification being sent only on one or more sub-
bands selected from the group consisting of the one or more first sub-bands and the one or
more second sub-bands;

receiving a notification at the second radio station from the first radio station relating to
the intended data transmission from the first radio station to the second radio station; and

after receiving the notification, sending an acknowledgement from the second radio
station to the first radio station to acknowledge the intended data transmission, the
acknowledgement being sent only on one or more sub-bands selected from the group consisting
of one or more first sub-bands and one or more second sub-bands.

30. (New) The method as claimed in Claim 29, wherein

the data transmission is performed on one or more sub-bands selected from the group consisting of:

- the sub-band or sub-bands used to send the notification, and
- the sub-band or sub-bands used to send the acknowledgment.

31. (New) The method as claimed in Claim 20, wherein
the second radio station receives the notification from the first radio station,
after receiving the notification, the second radio station sends an acknowledgement to
the first radio station to acknowledge the intended data transmission, the acknowledgement
being sent only on one or more sub-bands selected from the group consisting of one or more
first sub-bands and one or more second sub-bands.

32. (New) The method as claimed in Claim 31, wherein
prior to sending the acknowledgement, the second radio station detects a current
occupancy of the first and/or second sub-bands, and
the acknowledgement is sent only on one or more unoccupied sub-bands.

33. (New) A radio station for communicating with another radio station in an ad-hoc
mode of a radio communication system, comprising:

- a first memory to store information identifying one or more first sub-bands assigned to
the radio station for communicating, said sub-bands belonging to a frequency band which is
divided into a plurality of sub-bands;

- a second memory to store information identifying one or more second sub-bands
assigned to the other radio station for communicating, said second sub-bands belonging to the
frequency band; and

- a transmitter to send the other radio station a notification of an intended data
transmission to the other radio station, the transmitter sending the notification on one or more
sub-bands selected from the group consisting of the one or more first sub-bands and the one or
more second sub-bands.

34. (New) The radio station as claimed in Claim 33, wherein
before sending the notification, the transmitter detects a current occupancy of the first
and/or second sub-bands, and
the transmitter sends the notification only on one or more unoccupied sub-bands.

35. (New) A radio station for communicating with another radio station in an ad-hoc mode of a radio communication system, comprising:

a first memory to store information identifying one or more first sub-bands assigned to the radio station for communicating, said sub-bands belonging to a frequency band which is divided into a plurality of sub-bands;

a second memory to store information identifying one or more second sub-bands assigned to the other radio station for communicating, said second sub-bands belonging to the frequency band;

means for receiving and analyzing a notification from the other radio station, the notification indicating an intended data transmission to the radio station from the other radio station, the notification being received on one or more sub-bands; and

a transmitter to send an acknowledgement to the other radio station to acknowledge the intended data transmission, the acknowledgement being sent on one or more sub-bands selected from the group consisting of one or more first sub-bands and one or more second sub-bands.

36. (New) The radio station as claimed in Claim 35, wherein

before sending the acknowledgment, the transmitter detects a current occupancy of the first and/or second sub-bands, and

the transmitter sends the acknowledgment only on the one or more sub-bands used for the notification which are currently unoccupied.

37. (New) A computer readable storage medium containing a computer program to control a computer to perform a process for a first radio station in an ad-hoc mode of a radio communication system, the process comprising:

selecting one or more sub-bands which will be used for sending, to a second radio station, a notification of an intended data transmission from the first radio station to the second radio station, said selection being made from one or more first sub-bands which have been assigned to the first radio station for communicating and/or from one or more second sub-bands which have been assigned to the second radio station for communicating, said sub-bands belonging to a frequency band which is divided into a plurality of sub-bands.

38. (New) A computer readable storage medium containing a computer program to control a computer to perform a process for a second radio station in an ad-hoc mode of a radio communication system, the process comprising:

selecting one or more sub-bands which will be used for sending, to a first radio station, an acknowledgement of an intended data transmission from the first radio station to the second radio station, the acknowledgment being sent from the second radio station to the first radio station, said selection being made from one or more first sub-bands which have been assigned to the first radio station for communicating and/or from one or more second sub-bands which have been assigned to the second radio station for communicating, said sub-bands belonging to a frequency band which is divided into a plurality of sub-bands.